

Appl. No. 10 027 327

Amdt. dated December 9, 2003

Reply to Office action mailed September 9, 2003

Claims 1 to 18 are pending and under consideration. This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (**currently amended**). A **styrenic** thermoplastic resin composite comprising:

(A) about 50 to 95 parts by weight of a ~~styrene-containing copolymer~~ matrix resin prepared by polymerization of:

- (a1) about 50 to 95 % by weight of styrene, α -methylstyrene, halogen- or alkyl-substituted styrene, or a mixture thereof and
- (a2) about 5 to 50 % by weight of acrylonitrile, methacrylonitrile, C₁₋₈ methacrylic acid alkyl ester, C₁₋₈ acrylic acid alkyl ester, maleic acid anhydride, C₁₋₄ alkyl or phenyl N-substituted maleimide or a mixture thereof;

(B) about 5 to 50 parts by weight of glass fibers; and

(C) about 0.05 to 1.5 parts by weight of an aminosilane coupling agent

wherein the composite is prepared by mixing the matrix resin (A) with the aminosilane coupling agent (C) before addition of the glass fibers.

Claim 2 (original). The composite according to claim 1, wherein said aminosilane coupling agent is selected from the group consisting of γ -amino propyltriethoxy silane, γ -amino propyltrimethoxy silane, γ -aminopropyl-tris(2-methoxy-ethoxy)silane, N-(β -amino ethyl) γ -amino propyltrimethoxy silane, N-(β -amino ethyl) γ -amino propyltriethoxy silane, and β (3,4-epoxyethyl) γ -amino propyltrimethoxy silane.

Claim 3 (original). The composite according to claim 1, wherein the glass fibers are used in the amount of 10 to 40 parts by weight.

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Claim 4 (currently amended) The composite according to claim 1, wherein said glass fibers are treated prior to being mixed with components (A) and (C) with a coupling agent represented by the following formula:



where Y is an organic functional group that can react with a matrix resin, which is selected from the group consisting of vinyl, epoxy, mercaptan, amine and acryl, R is a C₁₋₅ alkyl group and X is an ethoxy group or a halogen atom.

Claim 5 (currently amended) The composite according to claim 4, wherein said glass fibers are treated with γ -methacryloxy propyltriethoxy silane.

Claim 6 (original). The composite according to claim 1, wherein said component (a1) is about 50 to 70 % by weight and component (a2) is about 30 to 50 % by weight of the styrene containing copolymer.

Claim 7 (currently amended) The composite according to claim 1, further comprising a modified aromatic vinyl graft copolymer in an amount up to about 35 parts by weight of a ~~modified aromatic vinyl graft copolymer~~.

Claim 8 (original). The composite according to claim 7, wherein said modified aromatic vinyl graft copolymer is prepared by grafting about 22 to 99 % by weight of an aromatic vinyl monomer mixture onto about 1 to 80 % by weight of a rubber polymer.

Claim 9 (original). The composite according to claim 8, wherein the aromatic vinyl monomer mixture comprises (D1) styrene, para-t-butylstyrene, alpha-methylstyrene, beta-methylstyrene, vinylxylene, monochlorostyrene, dichlorostyrene, dibromostyrene,

chlorostyrene, ethylstyrene, vinyl naphthalene, divinylbenzene, or a mixture thereof, and (D2) acrylonitrile, methacrylonitrile, acrylic acid ester, maleic acid anhydride or a mixture thereof.

Claim 10 (**currently amended**) An molded article prepared using the **styrenic** thermoplastic resin composite according to claim 1.

Claim 11 (**currently amended**) A **styrenic** thermoplastic resin composite comprising:

(A) about 50 to 95 parts by weight of a ~~styrene-containing copolymer~~ matrix resin prepared by polymerization of:

- (a1) about 50 to 95 % by weight of styrene, α -methylstyrene, halogen- or alkyl-substituted styrene, or a mixture thereof and
- (a2) about 5 to 50 % by weight of acrylonitrile, methacrylonitrile, C₁₋₈ methacrylic acid alkyl ester, C₁₋₈ acrylic acid alkyl ester, maleic acid anhydride, C₁₋₄ alkyl or phenyl N-substituted maleimide or a mixture thereof;

(B) about 5 to 50 parts by weight of glass fibers; and

(C) about 0.05 to 1.5 parts by weight of an aminosilane coupling agent

wherein the styrenic thermoplastic resin composite is prepared by:

admixing a styrene-containing copolymer (A) as a matrix resin with an aminosilane coupling agent in a mixer;

extruding the admixture of the styrene-containing copolymer and the aminosilane coupling agent (C) in an extruder; and

feeding glass fibers (B) in the middle of the extruder into the melt of the admixture of (A) and (C).

Claim 12 (original). The composite according to claim 11, wherein said aminosilane coupling agent is selected from the group consisting of γ -amino propyltriethoxy silane, γ -amino propyltrimethoxy silane, γ -aminopropyl-tris(2-methoxy-ethoxy)silane, N-(β -amino ethyl) γ -amino

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propyltrimethoxy silane, N-(β -amino ethyl) γ -amino propyltriethoxy silane, and β (3,4-epoxyethyl) γ -amino propyltrimethoxy silane.

Claim 13 (**currently amended**). A ~~styrenic~~ thermoplastic resin composite comprising:

(A) about 50 to 95 parts by weight of a ~~styrene-containing copolymer~~ matrix resin prepared by polymerization of:

- (a1) about 50 to 95 % by weight of styrene, α -methylstyrene, halogen- or alkyl-substituted styrene, or a mixture thereof and
- (a2) about 5 to 50 % by weight of acrylonitrile, methacrylonitrile, C₁₋₈ methacrylic acid alkyl ester, C₁₋₈ acrylic acid alkyl ester, maleic acid anhydride, C₁₋₄ alkyl or phenyl N-substituted maleimide or a mixture thereof;

(B) about 5 to 50 parts by weight of glass fibers; and

(C) about 0.01 to 5.0 parts by weight of an aminosilane coupling agent

wherein the composite is prepared by mixing the matrix resin (A) with the aminosilane coupling agent (C) before addition of the glass fibers.

Claim 14 (original). The composite according to claim 13, wherein said aminosilane coupling agent is selected from the group consisting of γ -amino propyltriethoxy silane, γ -amino propyltrimethoxy silane, γ -aminopropyl-tris(2-methoxy-ethoxy)silane, N-(β -amino ethyl) γ -amino propyltrimethoxy silane, N-(β -amino ethyl) γ -amino propyltriethoxy silane, and β (3,4-epoxyethyl) γ -amino propyltrimethoxy silane.

Claim 15 (original). The composite according to claim 13, wherein the glass fibers are used in an amount of about 10 to 40 parts by weight.

Claim 16 (**currently amended**). The composite according to claim ~~1~~ 13, wherein said glass fibers are treated with a coupling agent.

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Claim 17 (original). A method of preparing a ~~styrenic~~ thermoplastic resin composite comprising:

admixing a styrene-containing copolymer as a matrix resin with an aminosilane coupling agent in a mixer;
extruding the admixture of the styrene-containing copolymer and the aminosilane coupling agent in an extruder; and
feeding glass fibers in the middle of the extruder into the melt of the admixture.

Claim 18 (original). The method according to claim 17 wherein about 50 to 95 parts by weight of a styrene-containing copolymer is used wherein the styrene-containing copolymer is prepared by polymerization of (a1) about 50 to 95 % by weight of styrene, α -methylstyrene, halogen- or alkyl-substituted styrene, or a mixture thereof and (a2) about 5 to 50 % by weight of acrylonitrile, methacrylonitrile, C₁₋₈ methacrylic acid alkyl ester, C₁₋₈ acrylic acid alkyl ester, maleic acid anhydride, C₁₋₄ alkyl or phenyl N-substituted maleimide or a mixture thereof; and about 5 to 50 parts by weight of glass fibers and about 0.01 to 5.0 parts by weight of an aminosilane coupling agent are used.

Claim 19. **(new)** The composite according to claim 1 wherein said glass fibers are treated with a sizing agent.

Claim 20. **(new)** The composite according to claim 13 wherein said glass fibers are treated with a sizing agent.